S.C TR-1 3/81

# CONSUMPTIVE USE RATES FOR ALFALFA

SANTA FE FIELD OFFICE

AREA SOUTH OF SANTA FE

| MONTH | CU - IN./DAY | | | CIR - IN/DAY | | | ACIR - IN/DAY | | |
|---|---|---|---|---|---|---|---|---|---|
| | PEAK | MEAN | LOW | PEAK | MEAN | LOW | PEAK | MEAN | LOW |
| APRIL | — | — | — | — | — | — | — | — | — |
| MAY | .16 | .13 | .05 | .12 | .10 | .04 | .13 | .11 | .04 |
| JUNE | .25 | .21 | .08 | .20 | .17 | .07 | .23 | .19 | .08 |
| JULY | .30 | .25 | .10 | .22 | .18 | .07 | .26 | .22 | .09 |
| AUG. | .25 | .21 | .08 | .17 | .14 | .06 | .22 | .18 | .07 |
| SEPT. | .16 | .13 | .05 | .11 | .09 | .04 | .13 | .11 | .04 |
| OCT. | .10 | .08 | .03 | .06 | .05 | .02 | .08 | .07 | .03 |

| YEARLY VOLUME AT 100% EFFICIENCY | | |
|---|---|---|
| CU | CIR | ACIR |
| 24.5" | 17.6" | 21.1" |

Consumptive use studies conducted on alfalfa at Fort Sumner, Portales, and Lovington by the SCS have given us a refined data base on which to make consumptive use computations.

Alfalfa, cut for hay once a month during the growing season, has a variable daily consumptive use rate which reaches a peak value just prior to cutting and a low value which occurs immediately after cutting.

To obtain a consumptive use value for planning or sizing a system, the mean value shown in the table should be used.

For irrigation depth and frequency determinations, the peak daily value is approximately 1.2 times the mean value, while the low value of daily consumptive use is approximately .4 times the mean daily value.

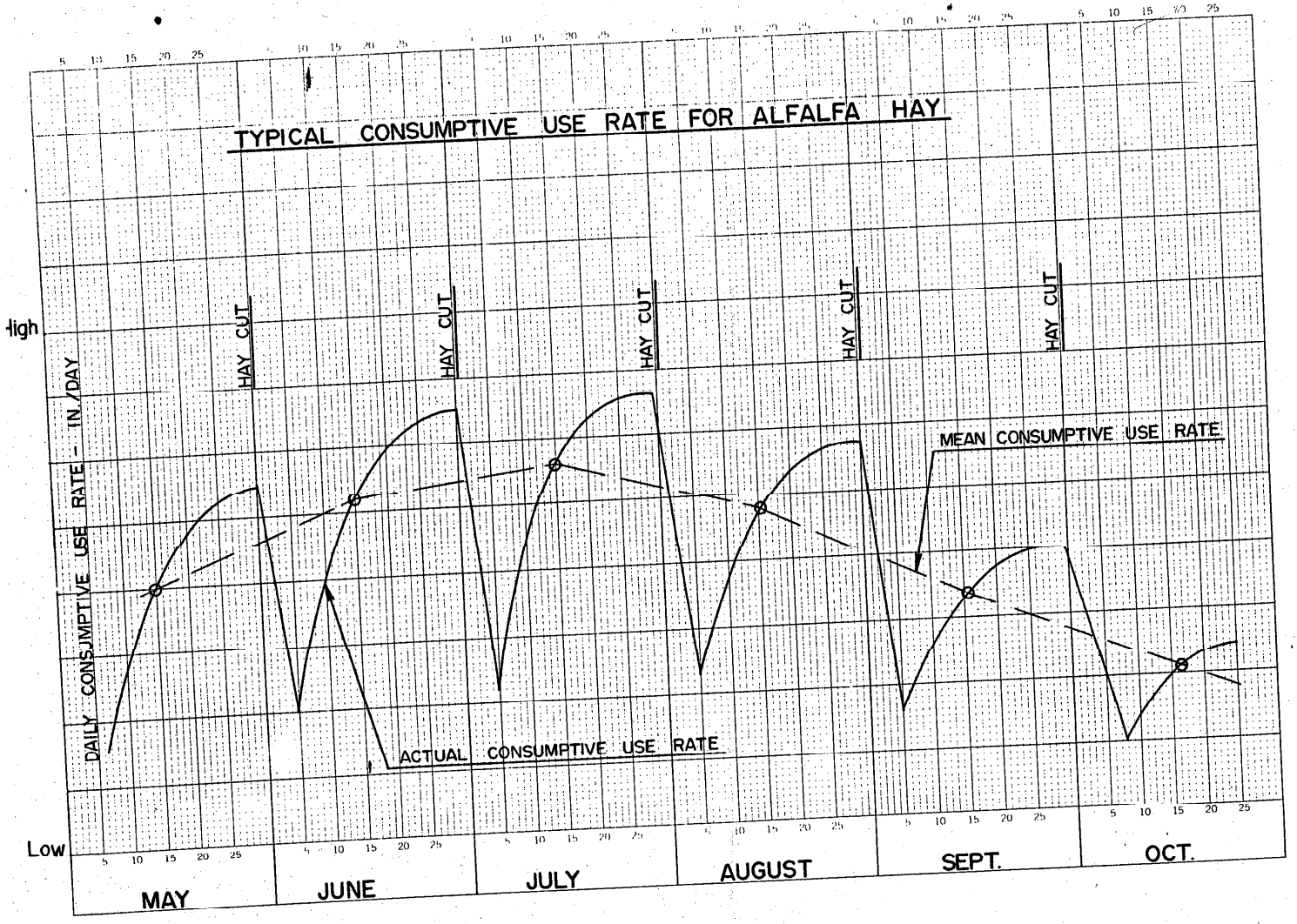
Alfalfa grown for seed production will have a consumptive use value equal to the peak value during full cover until the middle of full bloom.

As irrigation pumping costs have increased, and many water supplies have dwindled, many alfalfa hay growers are aiming not at maximum hay production per acre, but rather at a maximum hay production per acre-inch of water applied. In areas where this is the grower's objective, a planning or sizing value of .85 to .9 times the mean is applicable to a system devoted to alfalfa hay.

The yearly volumes shown for CU, CIR, and ACIR are calculated using the mean value.

(Over)

1/5



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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Tabular Computations

CONSUMPTIVE USE REQUIREMENTS C.C. TR-21

for 3/81

SANTA FE Field Office

AREA SOUTH OF SANTA FE

| CROP | MONTH | CU "/DAY | CIR "/DAY | ACIR "/DAY | | TOTAL CU "/YR | TOTAL CIR "/YR | TOTAL ACIR "/YR |
|---|---|---|---|---|---|---|---|---|
| Irrigated | April | — | — | — | | 20.5 | 13.6 | 17.1 |
| Pasture | May | .11 3.3 | .08 | .10 | | | | |
| | June | .17 5.1 | .13 | .15 | | | | |
| | July | .206 | .13 | .17 | | | | |
| | Aug. | .17 5.1 | .10 | .14 | | | | |
| | Sept. | .12 3.6 | .08 | .10 | | | | |
| | Oct. | .072.1 | .04 | .06 | | | | |
| | | | | | | | | |
| The consumptive use of irrigated pasture follows the same general fluctuations during the growing season as those shown for alfalfa, except that these changes are due to not only cutting for hay, but also grazing. Since the grazing intensity can vary greatly from farm to farm, no attempt has been made to plot these fluctuations. Therefore, the above data reflects the mean monthly or yearly values for the consumptive use of irrigated pasture. | | | | | | | | |
| ORCHARD W/COVER | MAY | .14 | .10 | .12 | | 25.7 | 18.4 | 22.1 |
| | JUNE | .22 | .18 | .22 | | | | |
| | JULY | .26 | .19 | .23 | | | | |
| | AUG. | .22 | .15 | .19 | | | | |
| | SEPT. | .14 | .09 | .12 | | | | |
| | OCT. | .08 | .05 | .07 | | | | |
| | | | | | | | | |
| ORCHARD W/O COVER | MAY | .12 | .08 | .10 | | 19.9 | 12.6 | 16.3 |
| | JUNE | .18 | .14 | .16 | | | | |
| | JULY | .22 | .15 | .19 | | | | |
| | AUG. | .16 | .09 | .14 | | | | |
| | SEPT. | .08 | .03 | .06 | | | | |
| | OCT. | .03 | .01 | .02 | | | | |
| | | | | | | | | |
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